CHAPTER 3

INSPECTION OF ROUGH RICE

3.1 DEFINITION OF ROUGH RICE

RICE (ORYZA SATIVA L.) WHICH CONSISTS OF 50 PERCENT OR MORE OF PADDY KERNELS OF RICE.

PADDY KERNELS. WHOLE OR BROKEN UNHULLED KERNELS OF RICE.

A. Paddy kernels are usually determined by cursory examination of the work sample as a whole.

B. When a detailed examination is necessary, determine paddy kernels on a representative portion of not less than 50 grams of rough rice before the removal of dockage.

1. Record the percent of paddy kernels on the work record to the nearest tenth percent.

2. If the rice contains less than 50 percent of paddy kernels, consider the rice to be brown rice for processing and refer to Chapter 4, "Inspection of Brown Rice for Processing," for additional information.

3.2 GRADES AND GRADE REQUIREMENTS

The grades and grade requirements for all classes of rough rice are shown in the United States Standards for Rice (Section 868.210), and in Attachment 2, "Grades and Grade Requirements for Rough Rice," to this chapter.

3.3 SPECIAL GRADES AND SPECIAL GRADE REQUIREMENTS

A. The special grades and special grade requirements for all classes of rough rice are shown in the United States Standards for Rice (Section 868.212).

B. A special grade, when applicable, is supplemental to the grade assigned. Such special grades for rough rice are defined as follows:

1. Infested rough rice. Rough rice that is infested with live weevils or other live insects injurious to stored rice.

2. Parboiled rough rice. Rough rice in which the starch has been gelatinized by soaking, steaming, and drying. If the rice is:

a. Not distinctly colored by the parboiling process, the rice shall be considered "Parboiled Light; "

b. Distinctly but not materially colored by the parboiling process, the rice shall be considered "Parboiled; "

c. Materially colored by the parboiling process, the rice shall be considered "Parboiled Dark."

3. Smutty rough rice. Rough rice which contains more than 3.0 percent of smutty kernels.

4. Glutinous rough rice. Special varieties of rice which contain more than 50 percent chalky kernels.

5. Aromatic rough rice. Special varieties of rice that have a distinctive and characteristic aroma; e.g., basmati and jasmine rice.

3.4 WORK RECORD

Record the results of all tests and findings clearly and accurately on a laboratory ticket or similar form. This will be used as the source of the information reported on the inspection certificate. FGIS personnel shall use form FGIS-911, "Rice Sample Ticket," to record inspection results. Cooperator's shall use a similar form.

NOTE: For submitted sample inspections, results may be recorded on a form FGIS-932, "Rice Inspection Certificate - Submitted Sample Inspection," or similar **form.**

3.5 REPRESENTATIVE PORTION

A specified quantity of rice divided-out from the representative sample by means of an FGIS-approved device.

3.6 WORK SAMPLE

A representative portion of rice (approximate size - 1,000 grams) that is used to make all such determinations required for a particular class of rice.

3.7 FILE SAMPLE

A. A representative portion of rice (approximate size - 1,250 grams) that may be used in conjunction with the work sample, when needed, to determine the complete grade. File samples may also be used for monitoring, retest, and appeal inspection purposes.

B. Retain file samples in appropriate containers for the required retention period. After maintaining for the required period, dispose of the file samples in accordance with established procedures. See FGIS Program Directive 917-13, "Uniform File Sample Retention System for Rice, Pulses, and Processed Products Inspected Under AMA," for additional information.

3.8 PERCENTAGES AND COUNTS

A. Percentages are determined upon the basis of weight and are rounded as follows:

1. When the figure to be rounded is followed by a figure greater than or equal to 5, round to the next higher figure; e.g., report 6.36 as 6.4, O.35 as 0.4, and 2.45 as 2.5.

2. When the figure to be rounded is followed by a figure less than 5, retain the figure; e.g., report 8.34 as 8.3, and 1.22 as 1.2.

B. Record percentages as follows:

1. For milling yield, to the nearest whole percent.
2. For all other factors, to the nearest tenth percent.

C. Record counts, for all factors determined on the basis of count, to the nearest whole number.

3.9 LABORATORY SCALES

Weigh samples and portions of samples using the proper class of FGIS-approved laboratory scales, and record the results to the correct division size. Use the table below to determine the scale class and division size required for weighing particular sized samples.

Table 1 - Laboratory Scales

Portion Size	Scale Class	Maximum Division Size	Record Results to at Least the Nearest…
120 grams or less	Precision	0.01 gram	0.01 gram
Samples for moisture determinations	Precision or Moisture	0.1 gram	0.1 gram
More than 120 grams	Precision, Moisture, or General	1 gram	1 gram

Note: See chapter 2, Equipment Handbook, for additional information.

3.10 PRELIMINARY EXAMINATION

A. The sampler must: (1) observe the uniformity of the rice as to type/class, quality, and condition; (2) make the determination for "Heating"; (3) draw the representative sample; and (4) report relevant information to the inspector.

B. The inspector must review the sampler's remarks/information. If the inspector has questions or doubts the representativeness of the sample, he or she must contact the sampler and obtain the needed information or make arrangements to obtain another sample.

3.11 BASIS OF DETERMINATION

THE DETERMINATION OF SEEDS, OBJECTIONABLE SEEDS, HEAT-DAMAGED KERNELS, RED RICE AND DAMAGED KERNELS, CHALKY KERNELS, OTHER TYPES, COLOR, AND THE SPECIAL GRADE PARBOILED ROUGH RICE SHALL BE ON THE BASIS OF THE WHOLE AND LARGE BROKEN KERNELS OF MILLED RICE THAT ARE PRODUCED IN THE MILLING OF ROUGH RICE TO A WELL MILLED DEGREE.

WHEN DETERMINING CLASS, THE PERCENTAGE OF (A) WHOLE KERNELS OF ROUGH RICE SHALL BE DETERMINED ON THE BASIS OF THE ORIGINAL SAMPLE, AND (B) TYPES OF RICE SHALL BE DETERMINED ON THE BASIS OF THE WHOLE AND LARGE BROKEN KERNELS OF MILLED RICE THAT ARE PRODUCED IN THE MILLING OF ROUGH RICE TO A WELL MILLED DEGREE.

SMUTTY KERNELS SHALL BE DETERMINED ON THE BASIS OF THE ROUGH RICE AFTER IT HAS BEEN CLEANED AND SHELLED AS PRESCRIBED IN FGIS INSTRUCTIONS OR BY ANY METHOD THAT IS APPROVED BY THE ADMINISTRATOR AS GIVING EQUIVALENT RESULTS.

ALL OTHER DETERMINATIONS SHALL BE ON THE BASIS OF THE ORIGINAL SAMPLE. MECHANICAL SIZING OF KERNELS SHALL BE ADJUSTED BY HANDPICKING AS PRESCRIBED IN FGIS INSTRUCTIONS, OR BY ANY METHOD THAT IS APPROVED BY THE ADMINISTRATOR AS GIVING EQUIVALENT RESULTS.

NOTE 1: When rice that is offered for inspection as one lot is found to contain more than 10,000 containers or 1,000,000 pounds (bulk) of rice, the lot must be sampled on the basis of two or more (approximately) equal-sized sublots of 10,000 containers or 1,000,000 pounds or less. Inspect each sublot separately. (For additional information, see Chapter 7, "Roundlot Inspection Plan" and Chapter 8, "Warehouse-Lot Inspection Plan. ")

NOTE 2: When rice that is offered for inspection as one lot is subsequently found to contain portions that are distinctly different in class/type, quality, or condition, the rice in each portion shall be inspected separately.

A. Follow a systematic grading procedure. The order of procedure may vary depending on the class and the quality of the rice and the tests that are required to determine the grade. A general order of procedure is as follows:

1. Review the information on the sample ticket.

2. Examine the representative sample for odor and distinctly low quality.

3. Use an FGIS-approved divider to process the representative sample into three representative portions: (1) a work portion, (2) a file portion, and (3) a moisture portion.

NOTE: For specific information on the operation and maintenance of dividers, see Chapter 3, Equipment Handbook.

4. Examine the work sample for:

Class	Paddy kernels (if necessary)	Type
Infestation	Test weight (if requested)	

5. Remove the dockage from the work sample and, upon request, determine the percent of dockage.

6. Also upon request, examine the dockage-free portion for gold and straw colored kernels.

7. Shell the dockage free portion and examine the shelled rice portion for smutty kernels.

8. Mill the shelled rice portion and determine total milled rice (milling yield).

9. Examine the milled rice for odor.

10. Divide out from the milled rice portion a 40-gram portion and determine whole kernels (milling yield).

11. Place the remainder of the milled rice portion on a No. 6 plate or sieve and separate out the whole and large broken kernels.

12. Examine the whole and large broken kernels portion for color.

13. Reduce the whole and large broken kernels portion to 500 grams and examine the portion for:

Heat-damaged kernels Seeds
Ungelatinized kernels in parboiled rice

14. Reduce the 500-gram portion to 25 grams and examine the portion for:

Chalky kernels Other types
Red rice and damaged kernels

B. When the grade of a lot or sample is determined by a narrow margin (± 0.1 percent or 1 count) on a single factor, **except for the factors seeds and heat-damaged kernels on non-cargo lots**, another determination shall be made on another representative portion of equivalent size divided out from the work sample or file sample. The factor result shall be based on the average of the two determinations.

3.12 MOISTURE

MOISTURE. WATER CONTENT IN ROUGH RICE AS DETERMINED BY AN APPROVED DEVICE IN ACCORDANCE WITH PROCEDURES PRESCRIBED IN FGIS INSTRUCTIONS, FOR THE PURPOSE OF THIS PARAGRAPH, "APPROVED DEVICE" SHALL INCLUDE THE MOTOMCO MOISTURE METER AND ANY OTHER EQUIPMENT THAT IS APPROVED BY THE ADMINISTRATOR AS GIVING EQUIVALENT RESULTS.

NOTE: MILLING YIELD SHALL NOT BE DETERMINED WHEN THE MOISTURE CONTENT OF THE ROUGH RICE EXCEEDS 18.0 PERCENT.

A. Determine moisture on a representative portion of exactly 200 grams of rough rice before the removal of dockage.

B. Refer to Chapter 5 of the Moisture Handbook for information about determining moisture using the Motomco moisture meter.

C. Record the percent of moisture on the work record and the certificate to the nearest tenth percent. If the moisture content exceeds 14.0 percent, grade the rice "U.S. Sample grade."

3.13 TYPE

[ROUGH RICE SHALL BE DIVIDED INTO] THE FOLLOWING THREE TYPES: LONG GRAIN, MEDIUM GRAIN, AND SHORT GRAIN.

TYPES SHALL BE BASED ON THE LENGTH-WIDTH RATIO OF KERNELS OF RICE THAT ARE UNBROKEN AND THE WIDTH, THICKNESS, AND SHAPE OF KERNELS OF RICE THAT ARE BROKEN AS PRESCRIBED IN FGIS INSTRUCTIONS.

A .The length-width ratio limitations for rough rice are:

Long grain	Medium grain	Short grain
3.4 (or more) to 1	2.3 - 3.3 to 1	2.2 (or less) to 1

B. Type is usually determined by a cursory examination of the work sample as a whole.

C. When a detailed examination is necessary, measure the length and width of 15 unbroken kernels taken at random from the work sample and determine their average length-width ratio.

(1) For awnless kernels, length is the straight-line distance from the outer glumes to the tip of the lemma. For kernels with an awn, length is the straight-line distance from the outer glumes to the base of the awn.

Figure 1. Measuring the length of Rough rice kernels.

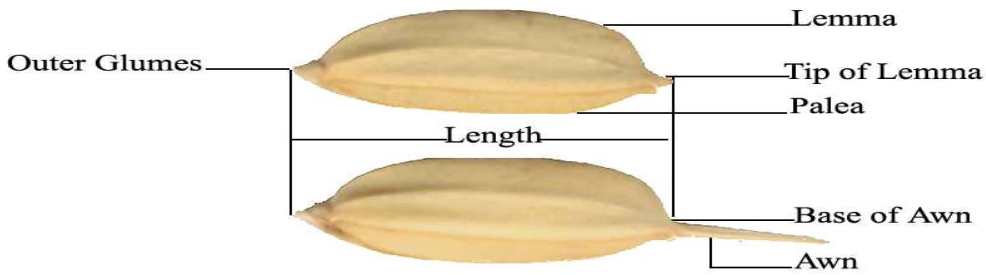

Figure 2. Width is the distance across the lemma and the palea at the widest point.

Measuring the width of Rough rice kernels.

(2) Width is the distance across the lemma and the palea at the widest point.

3.14 CLASS

(ROUGH RICE SHALL BE DIVIDED INTO) THE FOLLOWING FOUR CLASSES: LONG GRAIN ROUGH RICE, MEDIUM GRAIN ROUGH RICE, SHORT GRAIN ROUGH RICE, AND MIXED ROUGH RICE.

CLASSES SHALL BE BASED ON THE PERCENTAGE OF WHOLE KERNELS, LARGE BROKEN KERNELS, AND TYPES OF RICE.

"LONG GRAIN ROUGH RICE" SHALL CONSIST OF ROUGH RICE WHICH CONTAINS MORE THAN 25 PERCENT OF WHOLE KERNELS AND WHICH, AFTER MILLING TO A WELL MILLED DEGREE, CONTAINS NOT MORE THAN 10 PERCENT OF WHOLE OR LARGE BROKEN KERNELS OF MEDIUM OR SHORT GRAIN RICE.

"MEDIUM GRAIN ROUGH RICE" SHALL CONSIST OF ROUGH RICE WHICH CONTAINS MORE THAN 25 PERCENT OF WHOLE KERNELS AND WHICH, AFTER MILLING TO A WELL MILLED DEGREE, CONTAINS NOT MORE THAN 10 PERCENT OF WHOLE OR LARGE BROKEN KERNELS OF LONG GRAIN RICE OR WHOLE KERNELS OF SHORT GRAIN RICE.

"SHORT GRAIN ROUGH RICE" SHALL CONSIST OF ROUGH RICE WHICH CONTAINS MORE THAN 25 PERCENT OF WHOLE KERNELS AND WHICH, AFTER MILLING TO A WELL MILLED DEGREE, CONTAINS NOT MORE THAN 10 PERCENT OF WHOLE OR LARGE BROKEN KERNELS OF LONG GRAIN RICE OR WHOLE KERNELS OF MEDIUM GRAIN RICE.

"MIXED ROUGH RICE" SHALL CONSIST OF ROUGH RICE WHICH CONTAINS MORE THAN 25 PERCENT OF WHOLE KERNELS AND WHICH, AFTER MILLING TO A WELL MILLED DEGREE, CONTAINS MORE THAN 10 PERCENT OF "OTHER TYPES. "

A. Class is usually determined by a cursory examination of the work sample as a whole.

B. When a detailed examination is necessary to determine whole kernels for class, make this determination on a representative portion of not less than 40 grams of rough rice before the removal of dockage.

1. Record the percent of whole kernels on the work record to the nearest tenth percent.

2. If the rice contains 25 percent or less of whole kernels, show the designation "Rough Rice" on the grade line of the certificate. Do not show either a class or grade designation on the certificate.

C. When a detailed examination is necessary to determine other types for class, make this determination on a representative portion of not less than 25 grams of whole and large broken kernels of well-milled rough rice.

1. Record the percent of each type on the work record to the nearest tenth percent.

2. If the rice contains more than 10 percent of:

a. Whole or large broken kernels of medium or short grain rice in long grain rice; or

b. Whole and large broken kernels of long grain rice or whole kernels of short grain rice in medium grain rice; or

c. Whole or large broken kernels of long grain rice or whole kernels of medium grain rice in short grain rice.

Grade the rice "Mixed rough rice, " and record the percent of whole kernels of each class of rice and the percent of large broken kernels of each class of rice, to the nearest tenth percent, in order of predominance, on the grade line of the certificate.

3.15 ODOR

A. Determine odor on the basis of a representative portion of well-milled rough rice. Upon request, a nongrade odor determination may be made on the basis of the rough rice, as is.

1. An indication of an off-odor (i.e., musty, sour, and commercially objectionable foreign odor) can sometimes be detected by smelling the rough rice at the time of sampling. This can serve to "flag" potential problems. But, make the final odor determination on a portion of the sample milled to a well milled degree.

NOTE: If there is any question as to the odor of the rough rice when the sample is being taken, put the sample into an airtight container to preserve its condition for further examination in the laboratory.

2. A musty odor shall be any odor that is earthy, moldy, or ground-like. Do not confuse a burlap bag odor with a musty odor.

3. A sour odor shall be any odor that is rancid, sharp, or acrid.

4. A commercially objectionable foreign odor shall be any odor that is not normal to rice and that, because of its presence, renders the rice unfit for normal commercial usage; e.g., fertilizer, hides, oil products, skunk, smoke, fire-burnt, and decaying animal and vegetable matter odors.

5. Fumigants or insecticide odors are not considered as commercially objectionable foreign odors, unless they are caused by a fumigant or insecticide that does not dissipate quickly. When a sample of rice contains a fumigant or insecticide odor that prohibits a true odor determination, the following guidelines shall apply:

a. The representative sample of rice shall be allowed to air-out under forced ventilation (a fume hood) in an open metal container (e.g., a pan) for up to 4 hours; and

b. If the fumigant or insecticide odor still prohibits the determination of the rice's true odor after 4 hours, the rice shall be considered as having a commercially objectionable foreign odor.

WARNING: When sampling rice, check for placarded railcars. If a car is placarded (or if a car is not placarded but a fumigant odor is detected), do not enter the car or sample the rice, and notify your supervisor immediately.

NOTE: Aromatic (scented) rice shall not be considered as having a commercially objectionable foreign odor if it has an odor known to be common to such rice. Nonaromatic varieties of rice, which have a scented rice-like aroma, shall be considered to have a commercially objectionable foreign odor.

C. When rice is determined to be musty, sour, or have a commercially objectionable foreign odor, record the type of odor on the work record and in the □Remarks□ section of the certificate, and grade the rice □U.S. Sample grade.□

3.16 HEATING

A. Determine heating on the basis of the lot as whole.

1.When high temperature develops in rice as the result of excessive respiration, such rice is heating.

2.Heating rice usually gives off a sour or musty odor.

3.Care should be taken never to confuse rice that is warm due to storage in bins, cars, or other containers during hot weather with rice that is heating from excessive respiration.

B. When applicable, show the term "Heating" on the work record and in the "Remarks" section of the certificate, and grade the rice "U.S. Sample grade."

3.17 DISTINCTLY LOW QUALITY

A. Determine distinctly low quality on the basis of the representative sample as a whole or the lot as a whole.

B. Rough rice that is obviously affected by unusual conditions which adversely affect the quality of the rice, and which cannot be graded properly by use of the grading factors specified or defined in the standards, shall be considered as being of distinctly low quality; e.g., rice found to contain large debris, stones, glass, metal fragments, bird droppings, rodent droppings, castor beans, crotalaria seeds, treated seeds, or toxic substances.

C. When applicable, show the statement "Distinctly low quality on account of (cause or reason). " on the work record and in the "Remarks" section of the certificate, and grade the rice "U.S. Sample grade. "

3.18 INSECT INFESTATION

INFESTED ROUGH RICE. TOLERANCES FOR LIVE INSECTS FOR INFESTED ROUGH RICE ARE DEFINED ACCORDING TO SAMPLING DESIGNATION AS FOLLOWS:

REPRESENTATIVE SAMPLE. THE REPRESENTATIVE SAMPLE CONSISTS OF THE WORK PORTION, AND THE FILE SAMPLE IF NEEDED AND WHEN AVAILABLE. THE ROUGH RICE (EXCEPT WHEN EXAMINED ACCORDING TO PARAGRAPH (A)(3) OF THIS SECTION) WILL BE CONSIDERED INFESTED IF THE REPRESENTATIVE SAMPLE CONTAINS TWO OR MORE LIVE WEEVILS, OR ONE LIVE WEEVIL AND ONE OR MORE OTHER LIVE INSECTS INJURIOUS TO STORED RICE, OR FIVE OR MORE OTHER LIVE INSECTS INJURIOUS TO STORED RICE.

LOT AS A WHOLE (STATIONARY). THE LOT AS A WHOLE IS CONSIDERED INFESTED WHEN TWO OR MORE LIVE WEEVILS, OR ONE LIVE WEEVIL AND ONE OR MORE OTHER LIVE INSECTS INJURIOUS TO STORED RICE, OR FIVE OR MORE OTHER LIVE INSECTS INJURIOUS TO STORED RICE, OR FIFTEEN OR MORE LIVE ANGOUMOIS MOTHS OR OTHER LIVE MOTHS INJURIOUS TO STORED RICE ARE FOUND IN, ON, OR ABOUT THE LOT.

SAMPLE AS A WHOLE DURING CONTINUOUS LOADING/UNLOADING. THE MINIMUM SAMPLE SIZE FOR RICE BEING SAMPLED DURING CONTINUOUS LOADING/UNLOADING IS 500 GRAMS PER EACH 100,000 POUNDS OF RICE. THE SAMPLE AS A WHOLE IS CONSIDERED INFESTED WHEN A COMPONENT (AS DEFINED IN FGIS INSTRUCTIONS) CONTAINS TWO OR MORE LIVE WEEVILS, OR ONE LIVE WEEVIL AND ONE OR MORE OTHER LIVE INSECTS INJURIOUS TO STORED RICE, OR FIVE OR MORE OTHER LIVE INSECTS INJURIOUS TO STORED RICE.

NOTE: "Weevils" shall include coffee bean weevils, broad-nosed grain weevils, rice weevils, granary weevils, maize weevils, and lesser grain borers. "Other live insects injurious to stored rice" shall include beetles, moths, meal worms, and other insects injurious to stored rice. (See Section 3.36, "Interpretive Line Slides and Samples. ")

A. Determine infestation on the basis of a representative portion of approximately 1,000 grams, the lot as a whole, and/or a component sample taken during continuous loading/unloading.

1. Examine a representative portion.

a. If no live insect is found in the portion, make no further check for insects.

b. If two or more live weevils are found, consider the rice to be "Infested. "

c. If one live weevil and any other live insect injurious to stored rice is found, consider the rice to be "Infested. "

d. If only one live weevil or other insect injurious to stored rice is found, cut another representative portion of approximately 1,000 grams from the file sample. (Use the rest of the representative sample if the file sample is less than 1,000 grams.)

(1) If one or more live weevils or other live insects injurious to stored rice are found in the second portion, consider the rice to be "Infested. "

(2) If no live insect is found in the second portion, do not consider the rice to be "Infested. "

e. If no live weevil is found, but five or more other live insects injurious to stored rice are present, consider the rice to be "Infested. "

2. Examine the rice in the lot; i.e., the surface area of the lot and the area around the lot.

a. If no live insect is found in, on, or about the lot, make no further check for insects.

b. If two or more live weevils are found, consider the rice to be "Infested."

c. If one live weevil and any other live insect injurious to stored rice is found, consider the rice to be "Infested."

d. If no live weevil is found, but five or more other live insects injurious to stored rice are present, consider the rice to be "Infested."

e. If fifteen or more live Angoumois moths or other live moths are present, consider the rice to be "Infested."

3. Examine the component samples 1/ taken during continuous loading/unloading.

a. Divide out from the component sample a representative portion of approximately 1,000 grams.

b. Examine the representative portion for live insects.

(1) If no live insect is found in the representative portion, make no further check for insects.

(2) If two or more live weevils are found, consider the rice to be "Infested."

(3) If one live weevil and any other live insect injurious to stored rice is found, consider the rice to be "Infested."

(4) If one live weevil and no other insect injurious to stored rice is found, cut another representative portion of approximately 1,000 grams from the component sample.

1/ As specified in Chapter 7, "Roundlot Inspection." For shiplots and bargelots, a component sample may not represent more than 5000,000 pounds of rice and each sublot/lot must contain two or more approximately, equal-size components.

(a) If one or more live weevils or other live insects injurious to stored rice are found in the second portion, consider the rice to be "Infested."

(b) If no live insect is found in the second portion, do not consider the rice to be "Infested."

(5) If no live weevil is found, but five or more other live insects injurious to stored rice are present, consider the rice to be "Infested."

B. When applicable, show the term "Infested" on the work record and on the grade line of the certificate.

3.19 TEST WEIGHT PER BUSHEL

NOTE: This factor is not provided for under the United States Standards for Rough Rice, but may be determined upon request.

A. Determine test weight per bushel on a representative portion of approximately 1,000 grams of rough rice before the removal of dockage.

B. See Chapter 1 of the Grain Inspection Handbook, Book II, for information about performing test weight per bushel determinations.

C. Record the test weight per bushel on the work record to the nearest tenth of a pound and show one of the following statements in the "Remarks" section of the certificate:

1. "Test weight per bushel of (amount) pounds."

2. "Test weight per bushel of (amount) pounds is approximately equivalent to (amount) kilograms per hectoliter." (Kilograms per hectoliter is determined by multiplying the test weight per bushel by 1.287.)

NOTE: Bulk density may be determined by dividing the test weight per bushel by 1.2445. Bulk density is the number of pounds in one cubic foot.

3.20 DOCKAGE

A. Determine dockage on a representative portion of 1,000 grams of rough rice. Dockage is all matter other than rice that can be readily removed from the rough rice by the use of appropriate sieves and cleaning devices. It may also include underdeveloped, shriveled, and small pieces of kernels of rough rice that are removed in properly separating the dockage and that cannot be recovered by properly rescreening or recleaning.

B. Set up the Carter dockage tester as follows:

Table 2 - Dockage Tester Settings

	Long Grain	**Medium Grain**		**Short Grain**	
	All	Southern	Western	Southern	Western
		Production		Production	
Air Setting	Standard	Standard	Standard	Standard	Standard
Riddle	----------	----------	----------	----------	----------
Top Sieve	28	28	31 *	31	31 *
Middle Sieve	25	25	----------	26	----------
Bottom Sieve	22	4	27	4	21

* The No. 3 sieve may be used in the top sieve carriage to aid in the removal of paddy kernels with stems remaining on them.

NOTE: For Mixed rough rice, use the sieves prescribed for the type of rice that predominates in the mixture.

C. Adjust the feed hopper of the dockage tester so that during the first run practically all of the rice will pass through the upper half of the top sieve before it passes the midpoint of the sieve. Vary the feed adjustment, if necessary, depending on the class of rice and the amount of dockage in the rice.

D. Dockage consists of: all material removed by air, all material (except rice) which goes over the top sieve, all material (except rice) which goes over the middle sieve, and all material that goes through the bottom sieve.

E. If dockage remains in the sample after running it through the dockage tester, recomposite the sample--except for the dockage that has already been removed--and rerun the sample.

F. Upon request, record the percent of dockage on the work record and in the "Remarks" section of the certificate to the nearest tenth percent.

3.21 PADDY KERNELS WITH GOLD OR STRAW COLORED HULLS

NOTE: This factor is not provided for under the United States Standards for Rough Rice, but may be determined upon request.

A. Determine paddy kernels with gold or straw colored hulls on a representative portion of not less than 50 grams of dockage-free rough rice.

B. Remove the gold and straw colored paddy kernels, and when applicable, the brown rice kernels, from the representative portion.

C. Record the percent of paddy kernels with gold and straw colored hulls on the work record to the nearest tenth percent and show one of the following statements, as applicable, in the "Remarks" section of the certificate:

1. "A dockage free portion of this rice when separated consists of (percentage) of straw colored paddy kernels and (percentage) of gold colored paddy kernels."

2. "A dockage free portion of this rice when separated consists of (percentage) of straw colored paddy kernels, (percentage) of gold colored paddy kernels, and (percentage) of brown rice kernels."

3. "The hulls of the paddy kernels in this rice are (straw or gold, as applicable) colored."

3.22 MILLING YIELD

MILLING YIELD. AN ESTIMATE OF THE QUANTITY OF WHOLE KERNELS AND TOTAL MILLED RICE (WHOLE AND BROKEN KERNELS COMBINED) THAT ARE PRODUCED IN THE MILLING OF ROUGH RICE TO A WELL MILLED DEGREE.

NOTE: Milling yield shall not be determined when the moisture content of the rough rice exceeds 18.0 percent.

A. Determine milling yield on a representative portion of 1,000 grams of rough rice before the removal of dockage.

1. Divide out a representative portion of between 950 and 1,050 grams.

2. Add or remove kernels (by finger pinching, not pouring) until the required portion is obtained.

B. Milling yield is determined by removing the dockage from the representative portion, shelling the dockage free portion, converting the shelled rice to milled rice, and then handpicking the whole kernels from the total milled rice portion.

1. Remove the dockage from the rough rice. (See Section 3.20)

2. Shell the dockage-free rough rice. (Shelling is the removal of the hulls from the paddy rice.)

a. Adjust the hopper feed so that between 450 and 500 grams of rice passes through the sheller per minute.

b. Adjust the dial setting so that after shelling the sample contains 2 to 3 percent paddy kernels in long grain rice or 3 to 4 percent paddy kernels in medium or short grain rice. The approximate dial settings are:

Long Grain	19
Medium Grain	23
Short Grain	45

NOTE: For Mixed rough rice, use the dial setting prescribed for the type of rice that predominates in the mixture.

c. Start the sheller and then pour the rice into the sheller.

d. After all of the rice has cleared the sheller, turn the sheller off.

NOTE: Pass the rice through the sheller only once.

3. Mill the shelled rice. (Milling is the removal of practically all of the germ and the bran from the brown rice.)

a. If the miller has not been used recently, warm up the miller as follows:

(1) Place approximately 750 grams of milled or brown rice in the milling chamber with a 2-pound weight on the weight holder.

(2) Make at least three consecutive 30-second runs.

(3) Thoroughly clean the miller.

b. Proceed with the milling of the shelled portion, using a two-bar, 3/64-inch oblong screen.

c. Set the miller's timer switch at exactly 30 seconds.

d. Tilt the chamber so that the rice will flow uniformly beneath the milling cylinder, and pour the entire portion of shelled rice into the milling chamber.

e. Close the milling chamber and return it to the milling position.

f. Position the saddle and weight arm on the milling chamber.

g. Position the weight holder on the weight arm.

h. Position the prescribed weight on the weight holder for the type of rice to be milled.

Table 3 - Prescribed Weight

Type of Rice	Milling Cycle	Brushing Cycle
Long Grain	2 pounds	0 pounds
Medium Grain (Southern)	7 pounds	0 pounds
Medium Grain (Western)	10 pounds	2 pounds
Short Grain (Southern)	12 pounds	0 pounds
Short Grain (Western)	10 pounds	2 pounds

NOTE: For Mixed rough rice, use the weight prescribed for the type of rice that predominates in the mixture.

i. Start the miller for the 30-second milling cycle.

j. After milling, reduce the weight to the brushing cycle requirements.

k. Start the miller for the 30-second brushing cycle.

l. After brushing, remove the weights, weight holder, weight arm, and saddle.

m. Clean the miller and the hopper.

n. Place a container under the hopper opening and transfer the rice from the milling chamber into the container. Do not close or seal the container.

o. Allow the sample to cool to room temperature before removing it from the container.

p. Examine the rice for milling degree.

IN DETERMINING MILLING YIELD IN ROUGH RICE, THE DEGREE OF MILLING SHALL BE EQUAL TO, OR BETTER THAN, THAT OF THE INTERPRETIVE LINE SAMPLE FOR "WELL-MILLED" RICE.

q. If it is determined that the rice is not equal to or better than the interpretive line sample for "well-milled" rice, pour the rice back into the miller and repeat the brushing cycle.

4. Determine the percent of total milled rice. Total milled rice is the whole and broken kernels that are produced in the milling of rough rice to a well milled degree.

a. Weigh the rice after milling and divide this weight by the weight of the rice before the removal of dockage, shelling, and milling.

EXAMPLE: The sample of rough rice weighs 1,000 grams before the removal of dockage, shelling, and milling. After the removal of dockage, shelling, and milling, the sample weighs 679 grams.

679 grams divided by 1,000 grams = 67.9 percent

67.9 percent = 68 percent total milled rice

b. Record the percent of total milled rice on the work record and the certificate to the nearest whole percent.

5. Determine the percent of whole kernels.

WHOLE KERNELS. UNBROKEN KERNELS OF RICE AND BROKEN KERNELS OF RICE WHICH ARE AT LEAST THREE-FOURTHS OF AN UNBROKEN KERNEL.

a. Divide out a representative portion of not less than 40 grams of well-milled rough rice.

b. Remove the whole kernels from the well-milled rough rice portion using any device or method that will facilitate the separation of the whole kernels from the broken kernels.

c. Determine the percent of whole kernels in the 40-gram portion and then multiply this percentage by the percentage (unrounded) of total milled rice.

EXAMPLE: The 40-gram portion of well-milled rough rice contains 84.9 percent of whole kernels. The percent of total milled rice is 67.9 percent before rounding.

34.51 grams divided by 40.61 grams = 84.9 percent

84.9 percent X 67.9 percent = 57.6 percent = 58 percent whole kernels

NOTE: Carry out all figures used in the calculations to tenths of a percent. Do not carry out to hundredths.

d. Record the percent of whole kernels on the work record and the certificate to the nearest whole percent.

3.23 BROKEN KERNELS

BROKEN KERNELS. KERNELS OF RICE WHICH ARE LESS THAN THREE-FOURTHS OF WHOLE KERNELS.

NOTE: This factor is not provided for under the United States Standards for Rough Rice but may be determined upon request.

A. Determine broken kernels on a representative portion of not less than 25 grams of well-milled rough rice.

B. Remove the broken kernels from the milled rough rice portion using any device or method that will facilitate the separation of the broken kernels from the whole kernels.

C. Record the percent of broken kernels on the work record and the certificate to the nearest tenth percent.

3.24 LARGE BROKEN KERNELS

NOTE: This factor is not provided for under the United States Standards for Rough Rice, but may be determined upon request.

A. Determine large broken kernels on the well-milled rough rice portion as a whole. Large broken kernels are the broken kernels of rice (including seeds) removed from the total milled rice sample that will pass over a 6 plate or remain on top of a 6 sieve.

1. Run the rice over a 6 plate (for Southern production) or a 6 sieve (for Western production). (See procedures in Section 3.25.)

2. Remove all whole kernels from the material that passes over the plates or remains on top of the sieve. All other rice that passes over the plates or remains on top of the sieve shall be considered as large broken kernels.

B. Record the percent of large broken kernels on the work record and the certificate to the nearest tenth percent.

NOTE: Upon request, the number of seeds or heat-damaged kernels, or the percent of red rice and damaged kernels or chalky kernels in the large broken portion may be determined. Determine these factors on a representative portion of not less than 25 grams of large broken kernels of well-milled rough rice.

3.25 WHOLE AND LARGE BROKEN KERNELS

WHOLE AND LARGE BROKEN KERNELS. RICE (INCLUDING SEEDS) THAT (1) PASSES OVER A 6 PLATE (FOR SOUTHERN PRODUCTION) OR (2) REMAINS ON TOP OF A 6 SIEVE (FOR WESTERN PRODUCTION).

A. Determine whole and large broken kernels on the well-milled rough rice portion as a whole.

B. For southern production rice:

1. Place a 6 plate in the top carriage and a 6 plate in the bottom carriage of the rice sizing device.

2. Pour the milled rough rice portion on the top plate. After the sample is poured, place the emptied triangular pan under the hopper to catch the rice that flows over the plates.

3. Press the starting switch. Allow the machine to run until the rice stops flowing over the plates into the triangular pan.

4. After the rice stops flowing and the machine is turned off, remove the plates and empty their contents into the rectangular container. Lightly tap the bottom of the plate to remove material retained in the perforations of the plate.

5. Usually one run of the milled rough rice over the plates is sufficient to remove the 6 plate material. Observe the plates as they are being emptied. If most of the perforations of the bottom plate are filled, run the sample over the plates again.

6. Consider material that passes over the 6 plates after the final run as whole and large broken kernels.

NOTE: Do not hand adjust the material that lodges in or passes over the 6 plate.

C. For western production rice:

Mechanical Sieving Method.

1. Mount a 6 sieve with a bottom pan on a mechanical sieve shaker.

2. Set the stroke counter for 20 strokes.

3. Place a portion of about 250 grams in the center of the sieve.

4. Follow the procedure for operating the mechanical sieve shaker described in Chapter 1, Grain Inspection Handbook, Book II.

5. All material remaining on top of the 6 sieve, (including the material remaining in the perforation of the sieve) is considered whole and large broken kernels.

NOTE: Do not hand adjust the material that remains of top of or passes through the 6 sieve.

6. Pour the remaining sample portion onto the sieve and repeat the aforementioned procedures.

Hand Sieving Method.

1. Mount the 6 sieve on a bottom pan.

2. Place a portion of about 250 grams in the center of the sieve.

3. Hold the sieve level in both hands with elbows close to the body and the sieve perforations parallel to the direction of movement.

4. In a steady motion, move the sieve from left to right approximately 10 inches and return from right to left.

5. Repeat the sieving operation 20 times.

6. All the material remaining on top of the 6 sieve (including the material remaining in the perforations of the sieve) is considered as whole and large broken kernels.

NOTE: Do not hand adjust the material that remains on top of or passes through the 6 sieve.

7. Pour the remaining sample portion onto the sieve and repeat the aforementioned procedures.

D. Upon request, record the percent of whole and large broken kernels on the work record and the certificate to the nearest tenth percent.

3.26 HEAT-DAMAGED KERNELS

HEAT-DAMAGED KERNELS. WHOLE OR BROKEN KERNELS OF RICE WHICH ARE MATERIALLY DISCOLORED AND DAMAGED AS A RESULT OF HEATING, AND WHOLE OR LARGE BROKEN KERNELS OF PARBOILED RICE IN NONPARBOILED RICE WHICH ARE AS DARK AS, OR DARKER IN COLOR THAN, THE INTERPRETIVE LINE FOR HEAT-DAMAGED KERNELS.

A. Determine heat-damaged kernels on a representative portion of 500 grams of whole and large broken kernels of well-milled rough rice.

1. Divide out a representative portion of between 475 and 525 grams.

2. Add or remove kernels (by finger pinching, not pouring) until the required portion is obtained.

B. When it is determined by general observation that the 500-gram portion contains 75 or more heat-damaged kernels, divide the 500-gram portion into two portions: a 100-gram portion and a 400-gram portion.

1. Examine the 100-gram portion for heat-damaged kernels.

2. If the 100-gram portion contains 25 or more heat-damaged kernels, multiply the number of kernels found by 5.

3. If the 100-gram portion contains less than 25 heat-damaged kernels, examine the 400-gram portion and add the number of heat-damaged kernels found in both portions together.

C. If the whole and large broken kernels portion removed from the total milled rice weighs less than 500 grams, make the determination on the portion that is available and interpolate the number of heat-damaged kernels that would be present in a 500-gram portion as follows:

1. Multiply the number of heat-damaged kernels by 500,

2. Divide the sum by the weight of the whole and large broken kernels portion, and round to the nearest whole number.

EXAMPLE: The number of heat-damaged kernels in the whole and large broken kernels (WLBK) portion is 6. The weight of the WLBK portion is 450 grams.

$$\frac{\text{6 HT x 500 grams}}{\text{450 grams WLBK}} = 6.6 = 7 \text{ HT in 500 grams}$$

D. Record the number of heat-damaged kernels on the work record and the certificate to the nearest whole number.

1. Add the number of heat-damaged kernels to the number of objectionable seeds and record the sum on the work record and the certificate to the nearest whole number.

2. Add the number of heat-damaged kernels to the number of total seeds and record the sum on the work record and the certificate to the nearest whole number.

3.27 SEEDS

SEEDS. WHOLE OR BROKEN SEEDS OF ANY PLANT OTHER THAN RICE.

OBJECTIONABLE SEEDS. SEEDS OTHER THAN RICE, EXCEPT SEEDS OF ECHINOCHLOA CRUSGALLI (COMMONLY KNOWN AS BARNYARD GRASS, WATERGRASS, AND JAPANESE MILLET).

A. Determine objectionable seeds and non-objectionable seeds on a representative portion of 500 grams of whole and large broken kernels of well-milled rough rice.

1. Divide out a representative portion of between 475 and 525 grams.

2. Add or remove kernels (by finger pinching, not pouring) until the required portion is obtained.

B. If the whole and large broken kernels portion removed from the total milled rice weighs less than 500 grams, make the determination on the portion that is available and interpolate the number of seeds that would be present in a 500-gram portion as follows:

1. Multiply the number of seeds by 500.

2. Divide the sum by the weight of the whole and large broken kernels portion, and round to the nearest whole number.

EXAMPLE: The number of seeds in the whole and large broken kernels (WLBK) portion is 8. The weight of the WLBK portion is 430 grams.

$$\frac{\text{8 SD x 500 grams}}{\text{430 grams WLBK}} = 9.3 \text{ or } 9 \text{ SD in 500 grams}$$

C. Record the number of objectionable seeds and non-objectionable seeds on the work record.

D. Record the number of objectionable seeds on the certificate.

1. Add the number of objectionable seeds to the number of heat-damaged kernels and record the sum on the work record and the certificate to the nearest whole number.

2. Add the number of total seeds (objectionable seeds and non-objectionable seeds) to the number of heat-damaged kernels and record the sum on the work record and the certificate to the nearest whole number.

3.28 RED RICE AND DAMAGED KERNELS

RED RICE. WHOLE OR LARGE BROKEN KERNELS OF RICE ON WHICH THERE IS AN APPRECIABLE AMOUNT OF RED BRAN.

DAMAGED KERNELS. WHOLE OR BROKEN KERNELS OF RICE WHICH ARE DISTINCTLY DISCOLORED OR DAMAGED BY WATER, INSECTS, HEAT, OR ANY OTHER MEANS, AND WHOLE OR LARGE BROKEN KERNELS OF PARBOILED RICE IN NONPARBOILED RICE. "HEAT-DAMAGED KERNELS" SHALL NOT FUNCTION AS DAMAGED KERNELS.

A. Determine red rice and damaged kernels on a representative portion of not less than 25 grams of whole and large broken kernels of well-milled rough rice.

B. Red rice is rice that has a streak of red bran one-half or more the length of the kernel, or two or more streaks that total one-half or more the length of the kernel. A kernel or a piece of kernel of rice that does not have sufficient red bran to be considered as red rice shall be considered as long grain, medium grain, or short grain rice as appropriate.

C. The major types of damaged kernels are as follows:

1. Insect-Bored Kernels. Whole and large broken kernels of rice that have been bored by insects. Kernels that are only slightly eaten by insects and are clean in appearance shall be considered as sound kernels.

2. Fungus Damaged or "Pecky" Kernels. Whole and large broken kernels of rice that have one or more black, brown, red, or other discolored spots or areas on them caused by fungus growth or insects.

3. Parboiled Rice in Nonparboiled Rice. Parboiled kernels in nonparboiled rice that are lighter in color than the interpretive line for heat-damaged kernels.

4. Other Damaged Kernels. Whole and large broken kernels of rice that are distinctly discolored or damaged from causes other than those listed above shall be considered as damaged kernels.

D. Record the percent of red rice and damaged kernels on the work record and the certificate to the nearest tenth percent.

3.29 CHALKY KERNELS

CHALKY KERNELS. WHOLE OR BROKEN KERNELS OF RICE WHICH ARE ONE-HALF OR MORE CHALKY.

A. Determine chalky kernels on a representative portion of not less than 25 grams of whole and large broken kernels of well-milled rough rice.

B. Record the percent of chalky kernels on the work record and the certificate to the nearest tenth percent.

3.30 OTHER TYPES

OTHER TYPES. (1) WHOLE KERNELS OF (I) LONG GRAIN RICE IN MEDIUM OR SHORT GRAIN RICE, (II) MEDIUM GRAIN RICE IN LONG OR SHORT GRAIN RICE, (III) SHORT GRAIN RICE IN LONG OR MEDIUM GRAIN RICE, AND (2) LARGE BROKEN KERNELS OF (I) LONG GRAIN RICE IN MEDIUM OR SHORT GRAIN RICE AND (II) MEDIUM OR SHORT GRAIN RICE IN LONG GRAIN RICE.

NOTE: LARGE BROKEN KERNELS OF MEDIUM GRAIN RICE IN SHORT GRAIN RICE AND LARGE BROKEN KERNELS OF SHORT GRAIN RICE IN MEDIUM GRAIN RICE SHALL NOT BE CONSIDERED OTHER TYPES.

A. Determine other types on a representative portion of not less than 25 grams of whole and large broken kernels of well-milled rough rice.

B. Record the percent of other types on the work record and the certificate to the nearest tenth percent. If the amount of other types exceeds 10.0 percent, grade the rice "Mixed rough rice. "

3.31 COLOR

A. Color is usually determined by a cursory examination of whole and large broken kernels of well-milled rough rice.

B. When a detailed examination is necessary to determine color, make this determination on a representative portion of approximately 250 grams of whole and large broken kernels of well-milled rough rice.

C. Describe the color of the rice using one of the following terms:

WHITE	LIGHT GRAY	DARK GRAY
CREAMY	GRAY	ROSY
SLIGHTLY GRAY	SLIGHTLY ROSY	

D. For parboiled rough rice, also describe the rice as either "not distinctly colored by the parboiling process," "distinctly, but not materially colored, by the parboiling process," or "materially colored by the parboiling process."

E. Record the color on the work record and the certificate.

3.32 SMUTTY ROUGH RICE/SMUTTY KERNELS

SMUTTY ROUGH RICE SHALL BE ROUGH RICE WHICH CONTAINS MORE THAN 3.0 PERCENT OF SMUTTY KERNELS.

SMUTTY KERNELS. WHOLE OR BROKEN KERNELS OF RICE WHICH ARE DISTINCTLY INFECTED BY SMUT.

A. Determine smutty kernels on a representative portion of not less than 15 grams of rough rice after the removal of dockage and after shelling, but before milling.

NOTE: Hand shell any paddy kernels remaining after shelling.

B. Record the percent of smutty kernels on the work record and the certificate to the nearest tenth percent. If the rice contains more than 3.0 percent smutty kernels, consider the rice to be "smutty" and show the special grade "Smutty" on the gradeline of the certificate.

NOTE: Except as specified, all grades and grade requirements in the United States Standards for Rough Rice apply to "Smutty Rough Rice."

3.33 PARBOILED ROUGH RICE/UNGELATINIZED KERNELS

PARBOILED ROUGH RICE SHALL BE ROUGH RICE IN WHICH THE STARCH HAS BEEN GELATINIZED BY SOAKING, STEAMING, AND DRYING. GRADES U.S. NO. 1 TO U.S. NO. 6, INCLUSIVE, SHALL CONTAIN NOT MORE THAN 10.0 PERCENT OF UNGELATINIZED KERNELS. GRADES U.S. NO. 1 AND U.S. NO. 2 SHALL CONTAIN NOT MORE THAN 0.1 PERCENT, GRADES U.S. NO. 3 AND U.S. NO. 4 NOT MORE THAN 0.2 PERCENT, AND U.S. NO. 5 AND U.S. NO. 6 NOT MORE THAN 0.5 PERCENT OF NONPARBOILED RICE. IF THE RICE IS:

A. NOT DISTINCTLY COLORED BY THE PARBOILING PROCESS, IT SHALL BE CONSIDERED "PARBOILED LIGHT; "

B. DISTINCTLY BUT NOT MATERIALLY COLORED BY THE PARBOILING PROCESS, IT SHALL BE CONSIDERED "PARBOILED;"

C. MATERIALLY COLORED BY THE PARBOILING PROCESS, IT SHALL BE CONSIDERED "PARBOILED DARK. "

THE COLOR LEVELS FOR "PARBOILED LIGHT, " "PARBOILED " AND "PARBOILED DARK " SHALL BE IN ACCORDANCE WITH THE INTERPRETIVE LINE SAMPLE FOR PARBOILED RICE.

NOTE: THE MAXIMUM LIMITS FOR "CHALKY KERNELS," "HEAT-DAMAGED KERNELS," "KERNELS DAMAGED BY HEAT, " AND "COLOR REQUIREMENTS" IN SECTION 868.210 IS NOT APPLICABLE TO THE SPECIAL GRADE "PARBOILED ROUGH RICE. "

UNGELATINIZED KERNELS. WHOLE OR BROKEN KERNELS OF PARBOILED RICE WITH DISTINCT WHITE OR CHALKY AREAS DUE TO INCOMPLETE GELATINIZATION OF THE STARCH.

NOTE: Parboiled rough rice shall be rough rice in which at least 90 percent of the kernels are colored by the parboiling process.

A. When a detailed examination is necessary to determine color, make this determination on a representative portion of approximately 250 grams of whole and large broken kernels of well-milled rough rice. Describe the rice as either:

1. "Parboiled light" if it is not distinctly colored by the parboiling process;

2. "Parboiled" if it is distinctly, but not materially colored, by the parboiling process; or

3. "Parboiled dark" if it is materially colored by the parboiling process.

B. When a detailed examination is necessary to determine nonparboiled or ungelatinized kernels, make this determination on a representative portion of not less than 25 grams of whole and large broken kernels of well-milled rough rice.

C. Record the color and the percent of ungelatinized kernels on the work record and the certificate to the nearest tenth percent. If the rice contains at least 90.0 percent parboiled kernels, consider the rice to be "parboiled" and show the special grade "Parboiled Light, " "Parboiled, " or "Parboiled Dark, " as applicable, on the gradeline of the certificate.

NOTE: Except as specified, all grades and grade requirements in the United States Standards for Rough Rice apply to "Parboiled Rough Rice."

3.34 GLUTINOUS ROUGH RICE/NONCHALKY KERNELS

GLUTINOUS ROUGH RICE SHALL BE SPECIAL VARIETIES OF RICE (ORYZA SATIVA L. GLUTINOSA) WHICH CONTAIN MORE THAN 50 PERCENT CHALKY KERNELS. FOR LONG GRAIN, MEDIUM GRAIN, AND SHORT GRAIN ROUGH RICE, GRADE U.S. NO. 1 SHALL CONTAIN NOT MORE THAN 1.0 PERCENT OF NONCHALKY KERNELS, GRADE U.S. NO. 2 NOT MORE THAN 2.0 PERCENT OF NONCHALKY KERNELS, GRADE U.S. NO. 3 NOT MORE THAN 4.0 PERCENT OF NONCHALKY KERNELS, GRADE U.S. NO. 4 NOT MORE THAN 6.0 PERCENT OF NONCHALKY KERNELS, GRADE U.S. NO. 5 NOT MORE THAN 10.0 PERCENT OF NONCHALKY KERNELS, AND GRADE U.S. NO. 6 NOT MORE THAN 15.0 PERCENT OF NONCHALKY KERNELS.

NOTE: THE MAXIMUM LIMITS FOR "CHALKY KERNELS" IN SECTION 868.210 IS NOT APPLICABLE TO THE SPECIAL GRADE "GLUTINOUS ROUGH RICE. "

A. Determine nonchalky kernels on a representative portion of not less than 25 grams of whole and large broken kernels of well-milled glutinous rough rice.

B. Record the percent of nonchalky kernels on the work record and the certificate to the nearest tenth percent. If the rice is a glutinous variety and contains less than 50.0 percent nonchalky kernels, consider the rice to be "glutinous" and show the special grade "Glutinous," as applicable, on the grade line of the certificate.

NOTE: Except as specified, all grades and grade requirements in the U.S. Standards for Rough Rice apply to “Glutinous Rough Rice.”

3.35 AROMATIC ROUGH RICE

AROMATIC ROUGH RICE SHALL BE SPECIAL VARIETIES OF RICE (ORYZA SATIVA L. SCENTED) THAT HAVE A DISTINCTIVE AND ROUGH RICE CHARACTERISTIC AROMA; E.G., BASMATI AND JASMINE RICE.

A. Determine aromatic on the basis of the odor of the lot as a whole, the representative sample as a whole, or a representative portion of well-milled rough rice.

B. If the rice is an aromatic variety and has an odor common to such rice, consider the rice to be "aromatic" and show the special grade "Aromatic"" on the gradeline of the certificate.

3.36 INTERPRETIVE LINE SLIDES AND SAMPLES

A. The interpretive line slide (ILS) system assists inspectors in making subjective grading decisions. This system consists of a portable tabletop transparency viewer and photographic slide transparencies. The viewer uses a precisely controlled light source of low intensity designed to provide a standard picture and to protect the slide. Therefore, only use the special viewer for ILS. Other light sources, such as a regular slide projector, may provide a distorted picture and damage the ILS. Use of such a projector is not prohibited; but, once used in this manner, the slides may not be used for official purposes.

Table 4
Currently Available Interpretive Line Slides

RICE 1.0	OBJECTIONABLE SEEDS
RICE 1.1	NON-OBJECTIONABLE SEEDS (CALIFORNIA)
RICE 1.2	NON-OBJECTIONABLE SEEDS (SOUTHERN)
RICE 2.0	HEAT-DAMAGED KERNELS
RICE 2.7	KERNELS DAMAGED BY INSECTS (PECK)
RICE 6.1	PADDY KERNELS IN MILLED RICE (PARTIALLY UNHULLED)
RICE 9.0	RELATED MATERIAL
RICE 9.1	UNRELATED MATERIAL

B. Interpretive line samples are actual samples enclosed in clear plastic containers. Overexposure to direct light can result in the bleaching of these samples. Therefore, interpretive line samples should be stored in cool, dark places.

FGIS FORM-911, "RICE SAMPLE TICKET"

I 55555	CERTIFICATE NO. A12345	TO BOARD	FIELD OFFICE Stuttgart
LOCATION	QUANTITY 5,672 grams – paper bags		
IDENTIFICATION	MOVEMENT (Circle)		

SEAL BROKEN	01 IN	02 OUT	03 BULK	04 EXPORT	05 CAR
SEAL APPLIED	06 TRUCK	07 LOCAL	08 BAGGED	09 SUB	

SAMPLER	DATE SAMPLED	LAB NO.	CLASS LGRUF

IDENTIFYING MARKS

FACTOR	GRAMS PORT.	GRAMS SEP.	ACG INSP.	SUPV.	BOARD	FACTOR	GRAMS PORT	GRAMS SEP.	ACG INSP.	SUPV.	BOARD
01 C			CR	CR		12 TBK					
02 CH	25.13	.21	0.8	0.5		13 TS-HT	500		7	6	
03 FM						14 4S					
04 HT	500		4	3		15 5P/5½S					
05 HT/OBS	500		4/2	3/2		16 6P/6S					
06 M			11.9	11.8		17 6□S					
07 MD						18 30S					
08 NOBS	500		1	1		19 WK	43.98	36.30	57.6	60.6	
09 OT						20 TR	1002	699	69.9	70.4	
10 P						21					
11 RR&DK	25.22	.09	0.4	0.3		22					

REMARKS
No infestation

ACG OR INSPECTOR John Smith	CODE NO. 6789	DATE INSP. 6/20/92

ACG OR INSPECTOR'S GRADE
U.S. No. 3 LGRUF, MY 58/70

SUPERVISOR Bob Jones	DATE SUPV. 6/20/92	REVIEWED BY	DATE REVIEWED
SUPERVISOR'S GRADE U.S. No. 3 LGRUF MY 61/70		BOARD'S GRADE	

FORM FGIS-911 (2-89)
RICE SAMPLE TICKET USDA- FGIS

Grades and Grade Requirements for Rough Rice

Grade	Maximum Number in 500 grams--			Maximum limit (percent)				
	Seeds and Heat-damaged Kernels Total (Singly or Combined)	Heat-damaged Kernels and Objectionable Seeds (Singly or Combined)	Heat-damaged Kernels	Red Rice and Damaged Kernels (Singly or Combined) 4/	Chalky Kernels 1/ 2/		Other Types 3/	Color 1/ Minimum Requirement
					In Long Grain	In Medium or Short Grain		
U.S.No. 1	4	3	1	0.5	1.0	2.0	1.0	White or creamy
U.S.No. 2	7	5	2	1.5	2.0	4.0	2.0	Slightly gray
U.S.No. 3	10	8	5	2.5	4.0	6.0	3.0	Light gray
U.S.No. 4	27	22	15	4.0	6.0	8.0	5.0	Gray or slightly rosy
U.S.No. 5	37	32	25	6.0	10.0	10.0	10.0	Dark gray or rosy
U.S.No 6	75	75	75	15.0	15.0	15.0	10.0	Dark gray or rosy

U.S. Sample grade shall be rough rice which:

(a) does not meet the requirements for any of the grades from U.S. No. 1 to U.S. No. 6, inclusive;
(b) contains more than 14.0 percent of moisture;
(c) is musty or sour, or heating;
(d) has a commercially objectionable foreign odor; or
(e) is otherwise of distinctly low quality.

1/ For the special grade Parboiled rough rice, see Section 868.212(b).
2/ For the special grade Glutinous rough rice, see Section 868.212(d).
3/ These limits do not apply to the class Mixed Rough Rice.
4/ Rice in grade U.S. No. 6 shall contain not more than 6.0 percent of damaged kernels.